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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,343	10/30/2003	Yukako Taka	03657/HG	5393

1933 7590 10/13/2005

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EXAMINER

SHEWAREGED, BETELHEM

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/699,343

Applicant(s)

TAKA ET AL.

Examiner

Betelhem Shewareged

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 14-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |



### **DETAILED ACTION**

1. Applicant's response filed on 06/15/2005 has been fully considered. The 35 USC 102 and 35 USC 103 rejections have been withdrawn in view of Applicant's amendment and comment.
2. Claim 14 is amended, and claims 1-27 are pending. (NOTE: Claims 14-27 are still withdrawn as non-elected invention.

### ***Election/Restrictions***

3. Applicant's election of Group I, claims 1-13 in the reply filed on 06/15/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5, 10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Wheeler et al. (EPA 0 672 537 A1).

Wheeler discloses an ink jet recording sheet comprising a support and a coatable layer on the support (abstract). The coatable layer contains fillers (page 4, line

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15), a multivalent metal compound such as magnesium and aluminum (page 4, lines 38), and a hydrophilic polyvinyl alcohol polymer compound photocrosslinked through side chains, wherein the degree of polymerization of the polyvinyl alcohol is 400-3,000 (page 4, line 25 thru page 5, line 1). The coatable layer further discloses additives such as mordant and antioxidant (page 4, line 20).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4, 6-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheeler et al. (EPA 0 672 537 A1), as applied to claims 1, 5, 10, 12 and 13, above, in further view of Mukoyoshi et al. (US 6,242,082 B1), Misuda et al. (US 4,879,166) and Dungworth et al. (US 2005/0048227).

Wheeler does not disclose the claimed particle size of the fillers and the ratio of fillers to hydrophilic binder. The experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the particle size of the fillers and the ratio of fillers to binder in order to optimize the ink-absorbing properties and glossiness of the layer. A prima facie case of obviousness may be rebutted, however, where the results

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of the optimizing variable, which is known to be result-effective, are unexpectedly good.

*In re Boesch and Slaney*, 205 USPQ 215.

Wheeler does not disclose mordant comprising a nitrogen containing compound as recited in claims 6-8.

Mukoyoshi teaches an ink jet recording sheet comprising a support and an ink receiving layer on the support (abstract). The ink receiving layer comprises a cationic compound (col. 7, line 33 thru col. 8, line 13). Wheeler and Mukoyoshi are analogous art because they are from the same field of endeavor that is the ink jet recoding sheet art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the cationic compound of Mukoyoshi with the invention of Wheeler in order to fix a dye component contained in the ink and to enhance the water resistance of the printed ink image (col. 7, lines 33-37).

Wheeler does not disclose antioxidant comprising a sulfur containing compound as recited in claim 9.

Misuda teaches a carrier medium for ink jet printing comprising a substrate and an ink absorbent layer (claim 1). The ink absorbent layer comprises thioether type antioxidant having a formula of  $R-S-R'$  (col. 3, line 57). Wheeler and Misuda are analogous art because they are from the same field of endeavor that is the ink jet recoding sheet art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the antioxidant of Misuda with the invention of Wheeler in order to prevent a color change of the printed image (col. 3, lines 47-55).

Wheeler does not disclose antioxidant comprising a phenol containing compound as recited in claim 11.

Dungworth teaches an ink jet recording medium comprising a substrate and a coating layer (abstract). The coating layer comprises a polymer and antioxidant such as hindered phenols [0115]. Wheeler and Dungworth are analogous art because they are from the same field of endeavor that is the ink jet recoding medium art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the antioxidant of Dungworth with the invention of Wheeler in order to stabilize the polymer in the coating layer [0113].

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is 571-272-1529. The examiner can normally be reached on Mon.-Fri. 8:00AM-4:30PM.

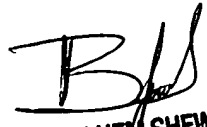
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

B.S.

September 6, 2005.

  
BETELHEM SHEWAREGED  
PRIMARY EXAMINER